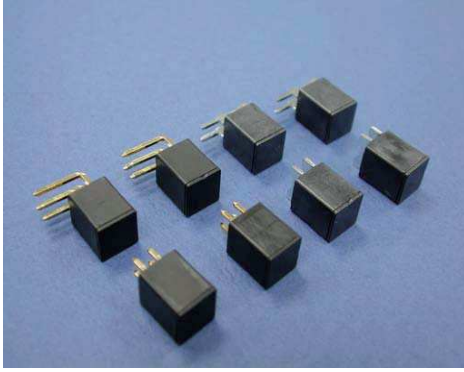


# Sensor Switches

## Roll Ball Switches

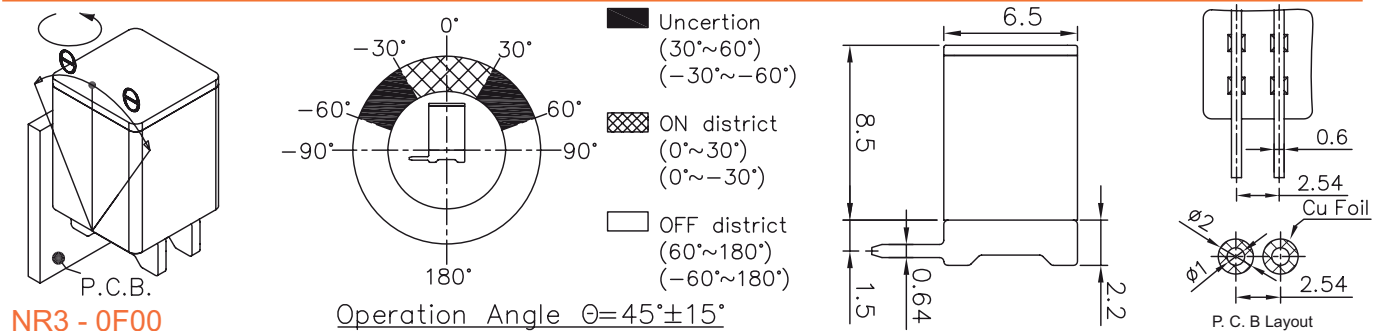
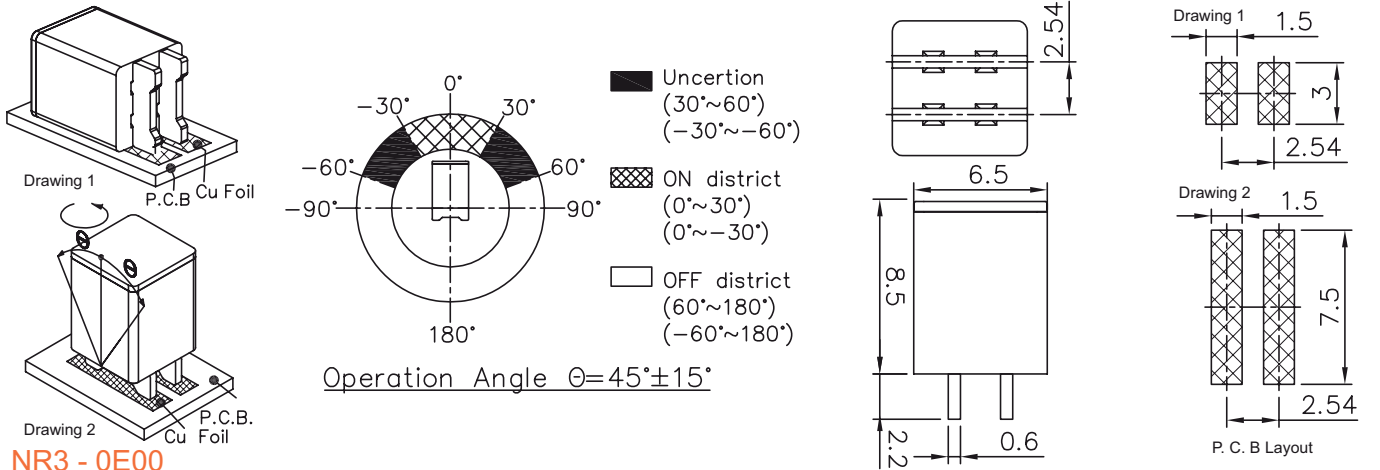
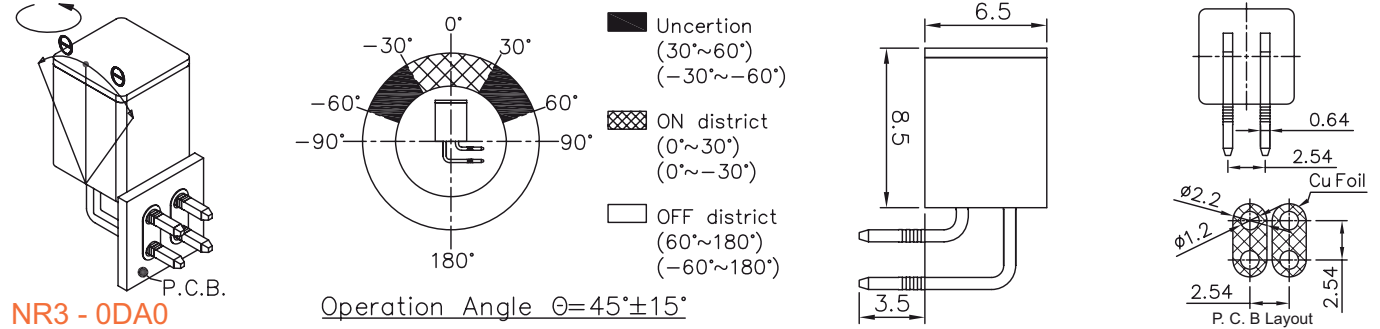
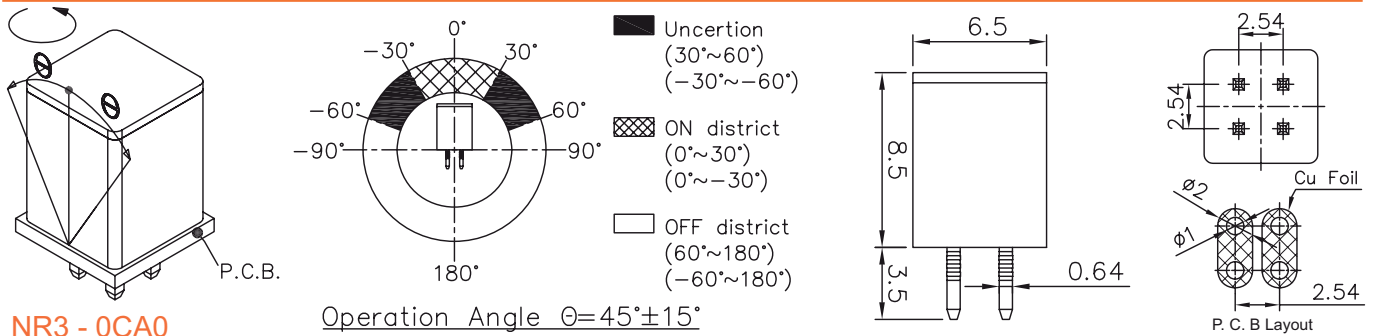
## NR3 Series



### Applications:

- 45° Tilt Detecting within a 360° radius:  
Xbox 360, Exsiccators, Home Appliance Tilt Off function.

Dimensions/ Operation/ P.C.B. Layout (Unit:mm,Tolerance: ±0.25mm)



All specifications are restricted to QA test criteria.  
DRW: D. L. JIN, CHK: D.F. LEE, APP: H.Z. QIU, DC: 2009-04-29, UPD: 2025-05-20.

### GENERAL SPECIFICATIONS

#### Features:

1. Small size & compact space.
2. Housing made of high insulation plastic material, free from electric conduction and rust problem.
3. Terminal and balls are gold plated to enhance the life.
4. All plastic material subject to industrial purpose high temperature and fireproof function
5. Suitable to IC trigger signal.
6. Complete replacement of mercury switch and meet with environmental protection

#### Electrical Characteristics:

1. Contact Rating: 25mA, 24VDC
2. Contact Resistance: Initial:5  $\Omega$   
After Life Test:10  $\Omega$  max
3. Insulation Resistance:1000M  $\Omega$  min. At 100VDC
4. Differential Angle: Refer to the drawing
5. Dielectric Strength: 500 VDC min. for 1 minute
- 6.Capacitance: 5pF max
7. Switching type: Normal Close (NC)

#### Mechanical Characteristics:

1. Temperature Range: Operating: -25°C to +85°C ;  
Storage : -40°C to +85°C
2. Pull Force of Terminal: 500 gf for 1 minute
3. Operation Life: 100,000 Cycles
4. Conductive Rate (Switch-on Rate): min. over 90%
5. Humidity: 95% RH,40°C for 96 hrs.
6. Solder ability : After flux 260 $\pm$ 5°C for 5 $\pm$ 0.5 seconds  
95% coverage
7. Reflow Soldering Heat for SMT type(for NR30E00):  
Reflow zone 260 $\pm$ 5°C for 20 seconds max.

#### Bill Of Material :

1. Housing: Glass-Fiber Polyamide(NR3-0C/DA0)  
Glass-Fiber Liquid crystal polymer(NR3-0E/F00)
2. Terminal: Copper Alloy, Gold Plated(3 $\mu$ " over Nickel
3. Ball: Copper Alloy, Gold Plated(3 $\mu$ " over Nickel

#### » NOTE

1. Suggestion Contact Rating: 5 mA.
2. For the continued product improvement as one of the company policy, specifications may change or update without notice. The latest information can be obtained through our sales offices. Normally, all products are supplied under our standard conditions.

#### » PRECAUTIONS FOR USE

1. The product is used mainly in electronic devices such as automotive devices, visual devices, home electrical appliances, information devices and communication settings. If the products is intended to be used for other endurance equipments requiring higher safety and reliability such as life support system, space and aviations devices, disaster and safety system, it's necessary to make verification of conformity or contact us for the details before using.
2. Don't try to clean the switch with a solvent or similar substance after the soldering Prozess.
3. The switch might be damaged if using the water-soluble flux.
4. The switch might be apart if the soldering condition over specification.
5. Don't use the switch in the environment with high humidity or other bedewing possibility, as it may cause leaking among the terminals.
6. It might catch fire if the rating exceeds the specifications. Never use the switch beyond the Rating.

#### PACKAGE (Minimum Order Quantity: One Bag)

	Part Number	Package	Quantity	Total	Size
1.	NR3-0CA0	PE Bag	500 pcs	500 pcs	12.7 x 17.8 cm
		Inner Box	10 Bags	5,000 pcs	36 x 20 x 9 cm
		Carton	3 Boxes	15,000 pcs	36 x 28 x 23 cm
2.	NR3-0DA0 NR3-0E00 NR3-0F00	PE Bag	500 pcs	500 pcs	12.7 x 17.8 cm
		Inner Box	8 Bags	4,000 pcs	36 x 20 x 9 cm
		Carton	3 Boxes	12,000 pcs	36 x 28 x 23 cm
3.	NR3-0E00	Reel	750pcs	750pcs	30 x 30 cm
		Inner Box	2 Reels	1,500 pcs	36 x 34 x 7 cm
		Carton	4 Boxes	6,000 pcs	37 x 37 x 28 cm